

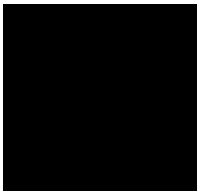
**MENSTRUAL REGULATION IMPACT
ON REPRODUCTIVE HEALTH IN BANGLADESH
A LITERATURE REVIEW**

Final Report

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Deciding to terminate a pregnancy is agonizing for most women. Though a highly personal decision, it is not a private matter since women rarely can act alone but have to seek agreement and financial support from others. When faced with an unwanted pregnancy, they struggle to find a solution which is comfortable for them and does not risk their relationship with their husband. Women also have to consider the reactions of other significant family members and the potential reproach from their community if their termination becomes known.

In Bangladesh severe economic hardship, debilitated health, and completed family size are principal reasons for pregnancy termination and have an inherent legitimacy. In today's world it is logical for couples to limit the size of their families. Doing so fits the societal norms and government policies on family formation and is part of being a responsible member of a civil society. None of this logic, however, can erase the complexity of the decision nor magically transform it into a simple one.

Yet scores of women, with the support and concurrence of their partners, still choose pregnancy termination every day. Women may select from different methods and providers. **Menstrual regulation** (MR) is defined as "...an interim method of establishing non-pregnancy for a woman who is at risk of being pregnant, whether or not she is pregnant in fact" (Ali et al., 1978, Akhter, 1986, Dixon-Mueller, 1988). In Bangladesh it is performed by vacuum aspiration and can be done by trained paramedics (Family Welfare Visitors/FWVs) up to eight weeks following a missed menstruation or ten weeks if performed by a trained physicians. **Abortion** is defined as the interruption or termination of pregnancy after the implantation of the blastocyst in the endometrium and before the resulting fetus has attained viability. **Induced abortions** are caused by deliberate interference, initiated voluntarily with the intention to terminate a pregnancy; all other abortions are called **spontaneous abortion** (Tietze, 1983). **Clandestine abortions** (also can be termed traditional abortions) are defined as those which are done willfully and are outside the law. The term **unsafe abortion** is usually used to reflect concerns for safety of abortion services. Unsafe abortions are characterized by inadequate skills of the provider, hazardous technique or unsanitary facilities (Akhter 1993).

To make early induction safer, Bangladesh offers MR services. MR occupies a unique position in the reproductive health services. In an environment where abortion is illegal, MR is accepted and widely practiced throughout the country. From a gingerly introduction in the mid-seventies, now MR is available at all tiers of government service points¹ and in a limited number of NGOs. In most clinics the providers who perform MRs also deliver the family planning services.

The original impetus to establish the MR program was to save the lives of mothers. Estimates from the 1970s and earlier, though limited in scope, indicated that as many as 25 percent of maternal deaths could be attributed to a traditional abortion gone wrong (Rochat et al., 1981). This compelling figure encouraged policy makers to agree to experimental MR service programs. A second reason MR services were needed was to support the family planning program at an early stage in its development. Program managers assumed that contraceptive failures would accompany the initial use of methods, particularly in a population of women with limited education. MR could be used to help contraceptors if their methods failed.

¹ MR is available in Family Welfare Centers (FWCs) at the Union level; Thana Health Complexes (THCs) at the Thana; and Model Clinics at Medical College Hospitals, District Hospitals, Maternal and Child Welfare Centers (MCWCs) which are all at the District Level.

This literature review includes: a description of the MR service program from the beginning to the present day; the available information on maternal mortality both when the MR services began and today; the religious and legal context in which MR operates; the traditional abortion services today; men's roles in pregnancy termination; and donor support for the MR program. The review concludes by posing a series of unanswered questions. If the MR program is to accomplish its service purpose, to provide women with a safe alternative to terminate an unwanted or mistimed pregnancy, it is imperative to gather new information and apply the findings to these unanswered questions.

THE MR SERVICE PROGRAM

MR Services -- the Beginnings

In 1972, immediately after the War of Liberation, the colonial abortion law was waived for a short time and specialists were allowed to perform abortions for women who had been victims of rape. These were not MRs. However, these procedures may have influenced a desensitization of the society about pregnancy termination.

The first five year plan of the government (1973-78) observed the following regarding abortion:

"Legalization of abortion has been known as probably the best and most effective method for control of population growth. It should be seriously considered how this method can be adopted to control the population growth in Bangladesh."

Using this premise, the government cautiously began its MR program in 1974 in selected urban clinics. The clear objective was "birth control". While MR was not positioned as a family planning method, it was used as a back-up to a contraceptive failure. The criteria for being eligible for MR at the Model Clinic in Mohammadpur were strict. "This service is available in Model Clinic to **married** women who request medical treatment for delayed menstruation for family planning purposes only" (Khan, 1977). Spousal consent was required and the MR had to be done before the twelfth week of gestation.

The official government Population Policy of 1976 stated

"...it would not be an offence if a qualified doctor does the medical termination of pregnancy (MTP) within 12 weeks of conception provided the woman had obtained necessary permission of doing MTP voluntarily for health, social or economic reasons either from her husband or, in his absence, from her legal guardian."

In 1978, the Pathfinder Fund (with USAID funds) began a training and service program for MR in seven medical colleges and two government district hospitals. This was the start of what was to become the Menstrual Regulation Training and Services Program (MRTSP).² The government followed this program in 1979 with a circular including MR in the national family planning program and encouraging services providers to offer service in all government hospitals and health and family planning complexes (the present day THCs) (Akhter, 1993)

The initial programs were carefully studied and evaluated. MR services were scrutinized to insure that the clients who were being reached were the "right ones". Clients were followed-up to determine their condition following MR.

² The numbers from different sources vary. Ross et al. (1996) reports that 10 MRTSPs were developed in 1979.

There were 2855 women who received MRs during a six month period in 1977 at Mohammadpur Model Clinic. The characteristics of these women were compared to family planning acceptors during the same time period (Akhter and Rider, 1983). The MR clients were younger, more educated and had a lower gravidity than the family planning acceptors. Significantly, more than half the MR clients had been using a family planning method. The authors conclude that MR provided an appropriate backup support to deal with the clients irregular or ineffective contraceptive use.

Obaidullah and Khan (1981) studied women who survived pregnancy termination complications in 14 thanas from 1978-79. At that early stage of the MR service program, they found that 94 percent of the women who used traditional abortion, did not know about MR services. Traditional abortion clients were less educated, as were their husbands, than MR clients. They were also poorer. A small percentage of the traditional abortion cases were unmarried (8 women/7 percent) while only one of the MR clients was unmarried (0.8 percent). Age (28) and number of living children (3.7 for abortion and 3.4 for MR) was almost the same.

Knowledge of family planning differed slightly, 98 percent of MR clients and 90 percent of abortion clients knew about family planning. Oral pill was the most well-known method for both groups. Current user information was based on use in the past three months. Oral pill was mentioned by 27 percent of MR clients and 20 percent of abortion clients. However, many said they had actually stopped or used the pill irregularly because of side effects.

The husband was the primary influence for MR in 73 percent of the cases while for abortion 64 percent said their husbands' were the primary influence.

Other essential aspects of MR services, like rejection rates, were also studied. Rahman (1980) reported 60-80 clients per day at Mohammadpur Model Clinic requested MR from 1974-80. Of those about 20-30 were rejected each day. One of the important reasons for rejection was that pregnancy was too advanced. However, the lack of husband's consent was the most important reason. The information is summarized in the following table.

Table 1 Distribution of Client by Reasons for Rejection	
Reasons for rejection	Percentage of clients
First gravida	5
Had MR previously	21
LMP more than 10 weeks	24
No consent of husband or guardian	27
Medical contraindication	23
	100
<i>Source: Rahman, S. (1980). "Profile of Menstrual Regulation Clients of Mohammadpur Model Clinic."</i>	

Data from both government and NGO facilities in 1985-87 showed that one-third of the women were still being rejected for MR because they came too late. The client profile had changed from the early years of the MR program, however. Nearly 60 percent of the clients were rural; mean age 26; overwhelmingly married; half the clients had some education; 2.7 children ever born and 2.4 living children. In terms of family planning use, 58 percent were never users, while ten percent stated they were using at the time they became pregnant (Kamal and Begum, 1990). The authors recommend several interventions, many of which have not been acted upon. Those bear repeating:

- * Appropriate information about MR services should be made available to all eligible women.

- * Record keeping for MR clients should be systematized.
- * Reporting of MR performances should be made obligatory for all MR providers working under the government and NGO programs.
- * The duration of pregnancy up to which MR is performed may be extended from 8 weeks gestation to 10 weeks gestation.
- * A nationally representative study on Follow-up of Rejected MR Clients may be conducted in the future in order to ascertain the rate of mortality and morbidity caused among the rejected MR clients due to subsequent attempts for having abortion.

Akhter (1986) reported that 60,000 MRs were performed in Bangladesh annually and linked that to the figure of Rochat (1978) that estimated 800,000 abortions per year. The author expressed a concern that MR services were not reaching enough women and compared those women who sought MR services with those hospitalized with serious abortion complications. The conclusion was: "MR clients are higher educated, younger, of low parity, and a large proportion urban dwellers. It appears that to whatever extent MR service is available, it is not reach high parity, less educated rural poor women."

There were indications that the MR services were of insufficient or unequal quality which may have effected potential clients decisions to continue using traditional abortions rather than MR services. One supply side situation analysis was done in the eighties (Barua et al. 1981). After visiting 137 MR service delivery points, the authors concluded that "...there is a need for renovation of MR centres and supply of MR equipment and extensive training for MR providers in the country is essential."

The questions of supply shortages and training inadequacies were noted in evaluations conducted by BAPSA and reported by Dixon-Mueller (1988).

"Given the overall inadequacies of the health care infrastructure, medical standards of most trained providers in the field (not to mention the untrained providers) are likely to be deficient. It is extremely difficult to maintain a smooth flow of supplies to rural ares because of bureaucratic hurdles and a general scarcity of human, financial, and material resources. Doctors and FWVs in BAPSA surveys frequently complained of shortages of clinical facilities, sterilization equipment, syringes and cannulae, cotton, and other items. FWVs, in particular, complained of delays in replacing worn MR kits from government supplies. Some did not have any clinical base at all and performed MRs in their own or their clients' homes."

Other quality indicators were studied in the MR program of the seventies and eighties. An important indicator of quality is complication rates which were reviewed in several of the studies (Khan et al. 1977; Ahmed et al. no date; Akhter,1982; Bhatia et al. 1980). The first focused on services at Mohammadpur Model Clinic from 1974-76 and found ten percent of clients had immediate complications. Follow-up complications were found in 11 percent of cases but all were managed by the clinic without hospitalization. A study (Ahmed et al. no date) of 30 rural and urban clinics divided complications as immediate, early and late when they interviewed MR users retrospectively. The most common immediate complaint was headache, while the most frequent early and late complication was either abdominal pain or vaginal bleeding. The researchers did not investigate how the complications were managed. However, they concluded:

"Most of the complications were minor and involved bleeding, headache, abdominal pain and vomiting tendency. These conditions cause personal inconvenience for many and create a social problem in certain cultural settings. Any irregularities in menstruation and especially increased menstrual bleeding, are likely to be viewed as problems.... The long-term complications of the MR procedure have not been studied but to the extent that the providers of MR are unskilled, the methods are crude and the clinical

conditions are unhygienic, any risks are clearly much greater than they may apparently seem."

Akhter (1982) and Bhatia et al. (1980) reviewed complications in MR procedures conducted by paramedics and physicians and found no difference. There was a positive relationship between the post-MR use of clinical family planning, IUD or sterilization, when the MR was performed by a paramedic. The conclusion of both was that MRs can be performed as safely and effectively by paramedics as physicians. What they gloss over is that the complication rates are actually high for both groups. In Bhatia's rural study, paramedics were observed and no immediate complications were reported. However, 49 percent of women complained of problems in a follow-up interview. Only 1.4 percent of these complications could not be managed by the paramedic who performed the initial MR.

The information on the early MR program indicates that the service was reaching a critical group of women who had mistimed or unwanted pregnancies. Most of these women received services which were safe and timely. However, MR services which met a consistently high quality standard of service had not yet been achieved. In addition, many women who required MR were not informed about the existence of services. Problems had been identified regarding supply-side issues, training, complication rates, and inaccurate reporting of procedures.

The MR Program Today -- Infrastructure, Information, Services, and Training

Most MRs are provided through government service points and providers, though a limited number of NGOs are also involved in service provision. Support for the MR program is provided by Swedish aid (SIDA), with technical assistance from the International Women's Health Coalition (IWHC). The national program can be divided into three components: 1) MR services provided by government; 2) MR services provided by NGOs; and, 3) training programs for FWVs and internee doctors. The majority of MRs reported to the government are performed in government or one of three NGO service points: the Bangladesh Association for the Prevention of Septic Abortion (BAPSA); the Bangladesh Women's Health Coalition (BWHC), and the Menstrual Regulation Training and Services Program (MRTSP) (Ross and Chowdhury, 1997). In addition, MRs are provided in NGO clinics: BRAC, Marie Stopes Clinic Society and others funded by BPHC. However, SIDA voiced a concern that "These NGOs do not necessarily report their performance to the government and it is difficult to assess the total quantity of their services" (SIDA, 1996).³ This section will describe the current infrastructure, information, services and training which have been developed. It will also comment on specific quality issues.

Infrastructure: The MR program is managed by the government and the Coordination Committee of MR Associations in Bangladesh (CCMRA,B). This association includes MRTSP, BAPSA, the BWHC, and the Mohammadpur Fertility Services and Training Center (MFSTC). There is also a National Technical Committee for MR which sets standards and reviews services.

Thousands of physicians and FWVs have been trained to provide MR services. These services are available in over 4000 service points throughout the country (Kamal et al. 1994). The MR services are provided in the same government clinical settings as family planning and MCH services: the FWC at the Union level; the THC at the Thana; and three service delivery points at the District level -- MCWC, District Hospital, or Model Clinics of Medical Colleges. At the

³ Private physicians also perform MR but they do not report their performance to government. Their possible contribution is not covered in this review.

national level, MFSTC provides MR services. The NGOs involved in MR service provision have limited service points, mainly located in urban areas.

Information: Knowledge of MR is not universal. From 1979 to 1989, questions were asked in national contraceptive prevalence surveys about MR. The results are summarized in the right side table.

In the 1996-97 BDHS knowledge of MR was again asked of a national sample of currently married women. Seven percent of women spontaneously mentioned MR and 71 percent after prompting. This is less well known than all modern family planning contraceptives except Norplant.

Knowledge varies by age and by Division. Only 2.3 percent of women in Sylhet spontaneously mentioned MR. Prompted awareness is highest in Barisal where nearly 80 percent of women are aware and lowest in Sylhet where 60 percent are aware of MR. The tables below summarize the information.

In small studies in specific locations similar findings are reported. Kamal et al. (1994) reported that nearly one-third of an urban sample of women did not know about MR. Of those who did know that MR services existed, about 57 percent knew a source of services. In an earlier report Kamal and Begum (1990) stated the single most important source of information for MR clients about the service was "relative/friend/neighbor (69 percent). Husband or self was the next most important (16 percent) while family planning workers provided information to only 9 percent of clients.

Table 4 Knowledge of MR: Unprompted and Prompted by Division 1996-97		
Division	Unprompted (% Aware)	Prompted (%Aware)
Barisa	7.5	79.4
Chittagong	6.2	72.1
Dhaka	7.0	66.0
Khulna	10.3	73.8
Rajshahi	7.5	76.0
Sylhet	2.3	59.1

A USAID customer survey (1995) of "poor Bangladeshi women" found that they had varying degrees of understanding about MR and abortion. However, USAID concludes from their survey that "...the majority of the women knew about the existence, source, and cost of menstrual regulation and abortion, the implication being that these practices were well-known and wide-spread in Bangladesh. Geographic location was an important element in MR and abortion prevalence. It was less common in high-performance

areas because of the extensive use of contraception, particularly clinical methods with low failure rates." The customers stated that FWVs and private practitioners frequently perform these procedures in high-performing areas. MRs were done in various locations -- THCs, FWCs, or the patients' houses. The customers also complained that "... FWVs would not perform MRs in the THC but only in homes where they could charge." Fee was typically based on duration of pregnancy: Tk. 100 for the first month; Tk. 200 for the second month, up to four months when MRs became illegal to perform and the health risk to mothers increased." The women also reported that MR costs could vary depending on the "legality" of the pregnancy. "...Pregnancies resulting from premarital or extramarital sex...were commonly ended by MRs or abortion. These procedures were usually expensive, costing in the range of Tk. 500 to Tk. 5000."

Table 2 Knowledge of MR: Unprompted and Prompted		
YEAR of CPS	Unprompted (% Aware)	Prompted (%Aware)
1997		21.7
1981		53.2
1983	1.0	44.0
1985	2.5	54.8
1989	3.8	70.1

Table 3 Knowledge of MR: Unprompted and Prompted by Age 1996-97		
Age	Unprompted (% Aware)	Prompted (%Aware)
10-14	2.0	50.5
15-19	4.9	68.5
20-24	6.6	73.2
25-29	8.9	74.6
30-34	10.1	71.3
35-39	7.5	73.0
40-44	5.9	71.0
45-49	3.6	61.3

Other small studies highlight the issue of charging for MR services. Hossain et al. (1997) reported that all women who had MR services paid. The lowest MR cost was Tk.100. Reports from rural women are matter-of-fact about charging for MR services (Caldwell et al., 1997). "Although MR is officially provided without cost, in practice it is often charged for. The impression given to the clients, may, therefore be that the worker is providing the MR in her personal capacity, and that it is natural that he or she charges a fee, or conducts the procedure outside properly equipped clinics or health centres". It is important to note that this same group of women respondents indicated that they did select the provider for pregnancy termination services on the basis of cost. If the trained providers charge fees which are too high, women are driven to seek care from less qualified ones thereby increasing the risk of complications.

Services: MR services are provided nationwide in urban and rural settings. The primary service providers are government paramedics (FWVs) and physicians (MO/MCH) with a limited number of NGOs also providing services.

The client profile has varied slightly from earlier years though the information on clients is scanty. Summed up in a SIDA document, clients are described as: "...mostly in the age group 25-30 years; the majority are housewives but here is a higher percentage of employed women (slightly above 15 percent) than in the general population. In urban areas some 2-5 percent are students, and since marital status is not recorded the percentage of unmarried adolescents is probably somewhat higher. Education levels among the MR clients are, as could be expected, higher than average with only about a quarter having had no education at all. Usually more than half of the clients have not used contraception before the MR, but contraceptive failure (usually among pill users) is a very common reason for seeking MR."

The number of services provided in the country is a debatable question. The number reported in the national MIS are summarized in table 5.

From 1975 - 1985 approximately 286,500 MRs were officially reported (Amin et al.1989). However, this figure apparently represents only a small portion of the MRs conducted. After interviewing almost 2000 MR providers in 175 upazillas (thanas), Amin et al. concluded that the interviewed providers report only 44 percent of the MRs they performed and that the government yearly reports captured only 29 percent of the total MRs. Based on the provider interviews, the estimated number of MRs for one year (August 1985 to July 1986) was 241,442 while the number reported through the government MIS was 70,021 for the same period. This is a substantial difference. The reasons postulated for this gross difference are "Many MR providers might have under reported the actual number of performed cases because of the restrictive funding provision regarding MR by some donor agencies. This was more likely to be the case in the governmental reporting system of MR performance. Similarly, adopters might have chosen to remain anonymous or to adopt MR clandestinely, with providers suppressing records and reports, and sometimes collecting fees from the clients."

YEAR	Number of MRs Performed
1974-75	686
1975-76	4408
1976-77	6687
1977-78	6135
1978-79	4412
1979-80	10479
1980-81	28044
1981-82	43444
1982-83	58579
1983-84	56728
1984-85	68609
1985-86	69086
1986-87	80433
1987-88	78558
1988-89	77838
1989-90	91574
1990-91	77937
1991-92	83832
1992-93	98360
1993-94	112381
1994-95	80883
1995-96	100282
TOTAL REPORTED PERFORMANCE	1,239,375

While the first reason is not confirmed in other studies, the second is. Begum et al. (1987) in an evaluation of the MR services found that one-fifth of formally and informally trained doctors submitted MR performance reports to the government, only 5 percent of informally trained "others" did so. Better reporting compliance was done by FWVs, three-quarters of them submitted regular performance reports. The information from the study is summarized in the table below and only represents the reporting of formally trained providers.

Under reporting persists today. Approximately 100,000 MRs are reported each year though the actual number may be much higher (Akhter 1993). Several reports highlight the discrepancies between reported MRs and the number actually performed. The common reasons given for inadequate reporting are: social stigma attached to MR may encourage the client and provider to collude to maintain the privacy of the service; private practice, where MRs are also given, do not report; (reporting/MIS) system itself is substandard (Akhter, 1993).

BAPSA was tasked in 1991 with the development and dissemination of an MR register. This register was designed "... to improve the accuracy of government service statistics, facilitate follow-up of MR clients, and provide the necessary information to program managers to monitor and evaluate program performance" (Ross and Chowdhury 1997). Its utility is questioned, however, in the most recent SIDA evaluation of the MR program. Based on their conclusion that the MIS currently does not report or analyze the number of MR procedures, the evaluators suggest that "...it is unlikely that the government will effectively use a detailed MR register...the costs of national training are, therefore, unlikely to be worth the anticipated results." Instead they advise "The ultimate purpose of this register, how the information will be used and by whom, and whether its use by service providers is realistic needs to be clarified before use is made of it" (Ross and Chowdhury 1997).

Table 6 Difference between the number of MR cases performed and reported during the last three months by category of formally trained providers and by stratum				
Reporting Doctor	FWV			
	Urban	Rural	Urban	Rural
MRs reported	2179	494	2771	2428
MRs not reported	3124	1990	1004	1000
Total MRs performed	5303	2484	3775	3428
Percent not reported	58.9	80.1	26.6	29.6
<i>Source: Begum, S.F., Kamal, H., Kamal, G.M. (1987). "Evaluation of MR Services in Bangladesh". BAPSA.</i>				

miscarriage; 1.9 percent MR; and 0.7 abortion. The majority of these terminations occurred in the first three months, though women reported having abortions in the fourth, fifth and sixth month of pregnancy.

At the time of the survey, 7 percent of the respondents were currently pregnant. Of those, 1.9 percent felt the pregnancy was mistimed and 1.1 percent had not wanted to be pregnant at all.

There are urban and rural, as well as Divisional differences in pregnancy termination. Urban women who terminate their pregnancy are more likely to have an MR than rural women. This information should be interpreted cautiously since the total number of women in these samples is small. However, 107 urban women who ended their pregnancy did so with MR in 45 percent cases and abortion for 6 percent. For 630 rural women, 20 percent ended their last pregnancy with MR and 9 percent with an abortion. The Divisional data is summarized in the table below for 773 women.

Table 7 Percentage of Pregnancy Termination by Type of Termination and by Division					
Division	Still birth	Miscarriage	Menstrual regulation	Abortion	Total
Barisal N=49	27.4	38.5	25.2	8.9	100
Chittagong N=159	30.0	39.5	24.1	6.4	100
Dhaka N=191	36.4	35.2	21.6	6.8	100
Khulna N=97	28.3	32.4	32.8	6.6	100
Rajshahi N=198	29.8	31.9	24.7	13.6	100
Sylhet N=43	40.3	48.1	6.0	5.6	100

19 year olds and 3.8 percent of 40-44 year olds report ever use of MR.

Though data, particularly from Sylhet, needs further analysis, this preliminary information indicates that women continue to have mistimed or unwanted pregnancies and do use both MR and abortion for termination. The abortions are used more commonly for rural women and are still done late into the pregnancy.

Training: The total number of trained providers varies in different reports. The most recent figures on the number of trained providers is maintained by BAPSA and reported in their regular

The 1996-97 BDHS gathered data on pregnancy termination in the past five years. These data included information on the results of the last pregnancy, whether any pregnancies were unwanted, whether these pregnancy had ever been terminated, for what reason, and by which method. The data is instructive. Respondents reported a pregnancy wastage of 8.1 percent in their last pregnancy. These included: 2.6 percent stillbirths; 2.9 percent

Nearly 20 percent of women said they had a pregnancy termination at sometime during their reproductive life. These include both spontaneous and induced terminations, as well as stillbirths. Sixteen percent reported more than one termination. Ever use of MR was most commonly reported by women between the ages of 25 and 39. Between 5.9 and 6.6 percent of women report ever use MR in these groups whereas only 2 percent of 15-

newsletter. The data on providers given initial training from the start of training in 1975 through 1996 by training institution is summarized below.

Table 8		
Training Institutions and Number of Providers Trained		
Training Institution	Number of Physicians Trained	Number of FWVs Trained
MFSTC	362	1288
MRTSP	6604	3475
BWHC	0	748
TOTAL	6966	5511
<i>Source: BAPSA (March 1997) MR Newsletter, Number 3.</i>		

Refresher training has been provided by the same training institutions to a total of 2745 FWVs. Physicians are not given refresher training.

Unfortunately not all of these trained providers are at their posts and delivering MR services. Ross et al. (1996) estimate that only 3800 FWVs and several hundred trained doctors are actually at government service points.

While meeting training performance targets has been the subject of evaluation, only limited information exists on the quality of the training which FWVs and doctors receive. Because the MR training organizations depend on the government to nominate trainees, there have been chronic problems in reaching training targets. The most recent evaluation suggests remedial steps to correct this problem, beginning with the development of a training plan done in cooperation with the government and based on estimates of demand for abortion which BIRPHERT will provide (Ross and Chowdhury 1997).

One indicator of the quality of training is the curriculum and how this is used by trainers. There is a standardized curriculum for MR training which was developed in 1985 and modified slightly in 1987. Essentially, however, the curriculum has not been "revised, improved, or updated since 1985" (Ross and Chowdhury 1997). This is a concern, particularly for a clinical service subject where many advances have been made in technique and infection prevention over the past decade.

Table 9				
Year-wise numbers of rejected MR clients				
Training Institute	1991-92	1992-93	1993-94	Total
MFSTC	1942	2066	2013	6021
MRTSP	6486	6987	7232	20705
BWHC	1146	1068	1098	3312
Total	9574	10121	10343	30038
<i>Source: IWHC (1994). "Overview Report of the Bangladesh Menstrual Regulation Program."</i>				

Quality: There has been no systematic review of quality of the MR program. However, the limited information which is available should be a cause for concern. In a situation analysis of the Rajshahi Division government service delivery points (Rahman et al. 1996), it was reported that complete MR kits were found in only 22 percent of clinics.

Limited information implies rejection of MR clients continues to be high. A review of the MR program by IWHC noted that during the 1991-1994 period in the training centers alone, 30,000 women who requested MR were rejected. The reason for rejection of most clients was that they came too late. Table 9 summarizes the information.

During the reference period, a total of 145,584 clients received MR services from MFSTC, MRTSP and BWHC. Approximately 17 percent of the clients were rejected. SIDA reported rejection to be between 20-30 percent (SIDA 1996). BWHC, MRTSP and MFSTC all reject clients for similar reasons. About 80 percent of all rejections are because of late gestation (more than 8-10 weeks). Other reasons are medical contraindications, the absence of husband or

guardian⁴, or the fact the woman is below 14 years of age (Ross and Chowdhury 1997). These reasons are similar to those presented in Table 1 which highlight the reasons for rejection of the first clients of the MR program in the seventies. It is a cause for concern that women are still not aware of when they must come to the clinic for MR services nearly two decades after the services were initiated. This is the most basic MR information and should be available to all potential clients, that is, all women of reproductive age.

When women are rejected for MR, this does not mean that they stop trying to get their pregnancy terminated. Kamal and Begum (1990) report that two-fifths of the rejected clients they interviewed made subsequent attempts to have an abortion. One death resulted from these attempts (death rate of 4.8/1000).

Post MR contraceptive acceptance is also an important indicator of the quality of services, particularly counseling services. The figures vary dramatically for MFSTC, MRTSP and BWHC for the 1991-94 period. MFSTC reported 28 percent accepted a method; while MRTSP and BWHC reported 97 and 93 percent respectively (IWHC 1994). SIDA (1996) supports this information for the training program while highlighting the lack of data for the total system: "Contraceptive use after the MR procedure among the clients served in the government system is not known, but follow-up studies of clients in the MR training programme show a very high uptake of contraception (mostly pills and injectables, very few sterilizations) of 85 percent after the procedure...one well-designed fieldbased follow-up study in the ares of BAPSA model clinic showed an initial uptake of about 95 percent and a still very high continuation rate after one year..."

Maternal Mortality and the Influence of Induced Abortion

Seminal research work both pre-and post-liberation in Bangladesh tried to determine the level of maternal mortality and the influence of abortion on the mortality figures. Beyond the simple desire to learn what was happening to women during their childbearing years, the wider purpose of the research was to provide the government with compelling health reasons to support a strong family planning program.

Maternal mortality estimates varied widely and were based on small samples rather than national surveys. In the period when Bangladesh was a part of Pakistan, the hospital-based mortality figures were 6.6 per 1000 (Directorate of Health/East Pakistan, 1958) while in 1966 the Pakistan Planning Commission used a figure 5 times greater than in 1958. A study by Robinson in 1962-65 inferred a minimum maternal mortality of 13 per 1000 but the author concluded the rate could be as high as 40 per 1000 (Chen et al., 1974).

Two post-Liberation studies in Matlab thana found death rates of 5.7 and 7.7 per 1000 live births. In one of the studies there were three induced abortion deaths in the 41 deaths reported.

Though all early studies were limited, most concluded that between 25 and 30 percent of all maternal deaths could be attributed to the consequences of induced abortion (Chen et al., 1974; Begum et al., 1978; Rochat et al., 1981). Measham et al. (1981) reported half the admissions in gynecology units in major urban hospitals were from abortion complications. Hospital and non-hospital based health workers in 1978-79 (Rochat et al., 1981) reported 26 percent of 1933 pregnancy-deaths were due to induced abortion. A hospital-based study during the same time

⁴ Though there is no regulation that a husband or guardian must sign a consent for MR, some clinics or individual providers require this consent.

period examined the admissions to the Dhaka Medical College Hospital (DMCH) obstetrics and gynecology department (May 1977-April 1978). During that period, 1003 cases of abortion complications were admitted. Twenty-four percent of those cases were induced and several more, reported to be spontaneous, appeared to be induced upon examination of both clinical and circumstantial evidence. In addition to the human suffering and needless death (6 of the 1003 women died), the research team highlighted that one-third of the women who had induced abortions reported they had been using oral pills the month they fell pregnant (Begum et al., 1981). This was an indication that family planning services alone would not protect women from unwanted or mistimed pregnancies.

The researchers suggestion that family planning and safe abortion services like MR, had to work together to save the lives of mothers corresponded to international thinking of the day. Potts et al. (1977) warned that:

"Organized family planning services have an important contribution to make in accelerating the switch from induced abortion to contraceptive practice but two limitations have to be recognized. First, the reversible methods of contraception at present available are not sufficiently predictable, even when well and consistently used, to control fertility over a lifetime and meet the goals of family size set in modern industrialized nations, and therefore in the foreseeable future the resort to abortion cannot be eliminated."

Their second limitation is more controversial but still a necessary consideration, particularly for resource-poor countries.

"Secondly, the input necessary into a family planning service in order to achieve an immediate decline in birth rates from the high level found in developing countries, without any transitory rise in the abortion rate, is very much larger than has been contemplated in any national family planning program. It may well represent a use of health resources which it would be difficult to justify if the overall needs of the community for health care are reviewed objectively."

Based on their data from the health workers, Rochat et al. inferred that 21,600 pregnancy related deaths were occurring annually in Bangladesh. They wrote that "...safe and effective fertility control, **including abortion performed by adequately trained health workers in both in- and out-patient facilities**, might be the most appropriate first step in preventing pregnancy-related deaths in Bangladesh...Because 25.8 percent of deaths were caused by abortion practices, we infer that safe, effective, and acceptable means of fertility control, including contraception, abortion, menstrual regulation, and surgical sterilization, could prevent one-fourth of the pregnancy-related deaths. The current practice using unsafe abortion procedures suggest that women might find safer practices for terminating pregnancy even more acceptable."

Begum and her colleagues raised another concern. They felt that only a few women who had abortion complications actually reached the hospitals for appropriate treatment. "In spite of a restricted legal provision many desperate women in Bangladesh undergo induced abortion, usually performed by unqualified personnel with unsafe procedure and in a clandestine and unsanitary circumstance frequently leading to serious complications. Women even with serious complications do not seek hospital admission until they are subjected to considerable suffering that cannot be relieved outside the hospital. **Thus the patients we do see in the hospital only represent a fraction of what happens in society.**"

International research confirms Begum's conclusions. Ross and Frankenberg state: "Data on national levels of abortion are very defective for developing countries...The relative frequency of abortion in different parts of the world is inferred from hospital data, surveys, and smaller area studies. **Hospital data, while common, is rarely representative and always incomplete...**"

During the seventies when this reported research was conducted Measham et al. (1981)

extrapolated from available data that about 780,000 abortions occurred each year in Bangladesh. The figure of "approximately 800,000" is commonly used to this day (Ross et al., 1996; Akhter, 1993).

During the eighties decade, studies of maternal mortality continued. A limited study conducted in rural Bangladesh found variance in mortality by age and parity (Khan et al, 1986). Reporting on data collected in 1982-83, the authors found 21 percent of all maternal deaths the result of induced abortion. They conclude that "Induced abortion practice is positively related to maternal age and parity. The ratio per 1,000 live births among women aged 35 years and above is nearly three times greater than that of women below 25 years, and the ratio of more than three times as great at parity five and above than at parity zero. This trend seems to indicate that the birth prevention motive of the mother as the main reason for seeking abortion **intensifies with increased parity and age**...Induced abortion mortality per 1,000 live births in women aged 35 years and above is more than 12 times that of women below 25...**Induced abortion mortality at parity five and above is more than seven times that at parity zero.**"

Recent Maternal Mortality Data: The Influence of Family Planning, MR and Traditional Abortion

Bangladesh has a successful family planning program with CPR of 49 percent and rising. It also has an MR program which has been established for two decades. This powerful combination of services to help women control their fertility suggests that women no longer need to rely on traditional abortion or continue an unwanted pregnancy. If illegal abortions have been eliminated, maternal mortality figures in this decade should reflect that change. Unfortunately maternal mortality is a difficult research subject so a complete picture is not available. This is particularly true because 92 percent of births are not attended by a qualified medical person (BDHS 1996-97), a vital registration system does not exist, and many of the maternity care services are delivered by minimally trained, non-licensed practitioners of various types who do not report any of their services through government channels.

In 1993 a joint report by the Bangladesh Obstetric and Gynecology Society and UNICEF list the principal causes of maternal mortality as: postpartum hemorrhage (26 percent); abortion (21 percent); eclampsia (16 percent); puerperal sepsis (11 percent) obstructed labor (8 percent); and other obstetric causes (18 percent). Clearly, induced abortion is still a major cause of maternal death.

Data are limited to small or specialized studies. Begum et al.(1991) report on hospital based data that 18 of 1301 abortion cases died. Each of these cases was an induced abortion. The authors compare their results with a study at DMCH in the late 1970s and conclude that "...there has been a significant decline in the death rate among induced abortion cases admitted into the hospital between the years 1978 and 1989." They suggest this reduction may be due to the easy access to MR services. However, it may be that hospital case management has also improved over the years -- a possibility they do not examine.

In a 1996 study of 53 cases of complications of both clandestine or traditional abortion and MR in rural and urban women, there was one mortality (Hossain et al., 1997). Ahmed et al. (1997) report 1 death in 144 cases in two rural thanas.

The most comprehensive recent study on maternal morbidity includes information on mortality (Akhter et al., 1997). In the sample of 27,843 households, Akhter learned of 65 deaths, 27 of which were pregnancy related. Based on this information a maternal mortality rate of 4.3 is deduced. Approximately 15 percent of the deaths were related to the complications of induced

abortion.

Ross et al. (1996) speculate that "Only a third of the abortions in Bangladesh is performed by trained health providers. Abortion-related deaths are likely to remain unreported, particularly in unmarried women, due to laws and religious prohibitions...Morbidity and mortality associated with sepsis and hemorrhage due to unsafe abortion practice will continue to affect the reproductive health and lives of women in Bangladesh--this is reality."

The UN, with technical assistance particularly from WHO and the Population Council, re-estimated maternal mortality for all countries. They determined a mortality rate of 850/100,000 with 33,000 maternal deaths per year for Bangladesh (WHO/UNICEF 1996). While not commenting on this figure directly, the government uses a lower rate of 4.5 in its official documents. Even though maternal mortality figures vary widely for Bangladesh, most writers on the subject conclude that any figure used is unacceptably high.

The Legal and Religious Context for MR

"Termination of pregnancy is one of the oldest and commonest forms of fertility control. No human community has ever shown a marked fall in its birth rate without a significant recourse to induced abortion and it is unlikely that contraceptive procedures alone will provide a sufficient measure of population control in developing nations wishing to lower their birth rate" (Potts, et al. 1977)

The termination of pregnancy by willful means has always created dilemmas for civil societies. Many citizens abhor the practice, others support the right of women to make their own decisions. No one seems to be neutral on the subject. That, perhaps, is the greatest problem. Since willful pregnancy termination has become a public debate rather than a private issue between a woman, her conscience and her service provider, it has been impossible for governments or health programs simply to provide services. Instead, legal definitions have to be developed which govern pregnancy termination practice. These definitions are often convoluted. There is an attempt to leave sufficient loopholes for women to get the services while at the same time preventing an outcry from conservative elements of societies. These elements often want assurance that lives of the unborn are protected even when the mother may die or suffer life-long consequences without a legally sanctioned abortion.

Bangladesh has successfully avoided much of the debate which has preoccupied other countries. Abortion is still governed by the Penal Code of 1860 and is clearly illegal except to save the life of the mother (Ali et al., 1978, Dixon-Muller, 1988, Ross et al., 1996). Rather than challenging this law by trying to make abortion universally legal, Bangladesh has chosen to provide first trimester MR. "This practice has its legal basis in an interpretation of the Bangladesh Institute of Law and International Affairs that the procedure was 'an interim method to establish non-pregnancy' thereby effectively removing it from the purview of the Penal Code when pregnancy is not established (Ali et al, 1978, Dixon Mueller, 1988, Ross et al., 1996). Further, "MR is a means of ensuring that a woman at risk of pregnancy is not actually pregnant. As such, MR is not affected by laws restricting abortion, and government officials at the highest levels recognize MR as a life-saving intervention and an important health service for women (Ross, et al. 1996).

The Bangladesh Institute of Law in 1979 wrote..."many Family Planning Clinics are carrying out the post-conceptive method of 'Menstrual Regulation' as a means of birth control which does not come under section 312 of the Penal Code (1860 law). Under statutory scheme, pregnancy is an essential element of the crime of abortion, but the use of menstrual regulation makes it virtually impossible for the prosecutor to meet the required proof."

What is critical in the MR process is that pregnancy is not established by legal means. No pregnancy test is done prior to the MR and no examination of uterine contents follows the MR. Dixon-Mueller further states that "...The technique of vacuum aspiration of the uterus is also used for diagnosing non-pregnancy-related menstrual problems, for example, and for treating incomplete miscarriage and abortion. MR thus occupies a legal gray area...". Countries like Bangladesh have taken advantage of this "gray area" by making MR widely -- and legally -- available.

Religious teaching has not directly interfered in MR practice in Bangladesh. Religions traditionally have strong opinions about conception and when life begins. Most Bangladeshi Muslims belong to the Hanafi sect. Their jurisprudence distinguishes between menstrual induction "prior to ensoulment" of the fetus which is permissible and abortion, which is not (Dixon-Mueller, 1988). Thus, MR is acceptable though individual clerics are known to oppose its use.

No review of the law has been done nor has any particular group taken up the cause of legalizing all abortion in the country. Since no literature is available on this point, it can only be speculated that two reasons may govern this inaction: (1) a prevailing attitude that the successful family planning program, with its back up MR services, have eliminated the need for second trimester abortion; and, (2) a worry that a public move to legalize all abortion may have a backlash on the MR program from conservative elements of the society. This could place the MR program in unnecessary jeopardy.

TRADITIONAL ABORTION TODAY

The combination of family planning and MR services has not eliminated traditional abortion. The perplexing question is, why not? Unfortunately, insufficient information is available to describe the "why not" question but there is some compelling information on "who" chooses traditional abortion.

The BDHS (1996-97) data indicates that nearly 9 percent of women who had their last pregnancy terminate did so by a traditional abortion. The majority of those were rural women who ranged in age from 15 to 44. The greatest number of abortions were reported by women between the ages of 25-29. Women in Rajshahi reported the most abortions and women from Syhlet the least. The majority had their abortion in the third or fourth month of gestation though 15 percent waited until the sixth month.

Ross et al. write in 1996, "Every year in Bangladesh, between eight hundred thousand and a million women attempt induced abortion, usually in clandestine circumstances without assistance of trained professional in unsanitary conditions. Perhaps ten thousand women or more die (25-30% of all maternal deaths) as a consequence, while tens of thousands of others are rendered sterile or left with severe, chronic health problems". If this figure is correct, the proportion of women who die as a result of traditional abortion has not changed since early estimates.

Traditional abortion services are also required because MR is not available to all women. Unmarried women have a particularly difficult time if they become pregnant. As Ross et al. (1996) report MR services are often avoided by unmarried pregnant women to conceal their pregnancy. MR providers only target married women and cannot provide services to unmarried women requesting them. Islam (1992) using hyperbolic language expresses her concerns on this subject: "...how many women take recourse to induced abortion in a year, is still not known.

This is undoubtedly a grand failure in a country where population control is a major policy of the government. Neither there is any significant strategy to identify the magnitude of the problem, nor there is any mechanism to inform the millions of women in need, to come forward for seeking help."

In 1989 Fouveau and Blanchet reported on violent deaths in rural populations of women. They include abortion in their definition of deaths due to violence. They conclude that the reason women use abortion rather than MR services are:

"..lack of personnel, weakness in their commitment, inadequacy of supplies, poor maintenance of equipment, frequency of surgical complications, absence of confidentiality, over-charging, need for husband's agreement and time limit ...As a result, most women resort to traditional practitioners, who are more readily available, cheaper, more likely to preserve confidentiality, and not concerned about the time limit."

Admission to the gynecological wards in DMCH were studied for a three year period, January 1989 through December 1991 (Anowar-ul Azim and Nilufar). Nearly forty-eight percent (3394 clients) of all the cases admitted were abortion-related. The researchers report that 77 percent of all the abortion admissions had been induced abortions (presumably the rest were incomplete spontaneous abortions though these are not specified). Among the abortion cases, 430 were septic complications and these were the only cases studied. The findings of this study should be of concern to those who manage both family planning and MR programs because it found little difference in the characteristics of women who used traditional abortion from those of studies a decade earlier. The majority of the respondents had no education (90 percent), had 3 or more children (71 percent) and were from the low income group (64 percent). In terms of family planning and MR knowledge: 30 percent had knowledge about contraceptives; 19 percent had been ever users; and, only 15 percent of the clients knew about MR⁵. Fifty-three percent aborted their pregnancy at 12 weeks gestation or more. Of the 430 septic complications, 35 women died -- 10 died almost immediately after admission (2-4 hours). The authors conclude:

"...the problem of septic abortion, or for that matter, that of induced abortion is not exclusively a medical problem per se; it has its social, economic, legal and behavioural connotations. Unless concerted efforts are made to resolve the problem from its various angles, there is very little hope of its disappearance from Bangladesh in the near future."

Data from studies on limited urban and rural populations, augment this information. Thwin et al. (1996) learned in an urban population that "about one in seven pregnancies are terminated through MRs or other means." The authors suggest that reliance on traditional abortion may be related to: "The inability to afford the expenses required for an MR or a 'safe abortion', and the lack of awareness regarding the time limit allowed for MR."

In another study of the same population, Thwin and Jahan (1996) found there were mixed views on whether abortion services were necessary. Most urban men and women felt this service was need for couples who have too many children or have frequent pregnancies, particularly if the pregnancy interval was short. Slum dwellers were willing to pay from Tk. 100-500 for an

⁵These findings have to be compared to the population of married women of reproductive age who were interviewed during the same time period for the national contraceptive prevalence surveys. There was a CPS in 1989 and again in 1991. In the 1989 CPS, 70 percent of MWRA had heard of MR. Yet in this hospitalized population only 15 percent had. Also by 1989, 44.2 percent of MWRA had ever used a contraceptive, 37.5 a modern method. By 1991, 59 percent had ever used, 49.2 (CPS) and 49.2 had ever used a modern method. Clearly the women who came with abortion complications were not as well acquainted with family planning as the surveyed women.

abortion and non-slum dwellers were willing to pay up to Tk. 600. Men (particularly non-slum dwellers) stated that free MR and abortion services should be provided by the government.⁶

Case studies of 53 urban and rural women hospitalized with abortion complications revealed that half used a traditional abortionist. While traditional methods were applied in the majority of these cases (insertion of sticks or herbs, ingestion of herbal concoctions, massage), three of the traditional abortionists used MR equipment. The reasons that women selected particular abortion methods or providers was not probed. However, health seeking behavior patterns indicated that the majority of these women had no contact with the health services. Many did not even have their children immunized and had never used any health service for themselves, except for family planning. Almost half of the women claimed to be current users of a method at the time they became pregnant (Hossain et al., 1997).

Recent rural studies also examine pregnancy termination. Ahmed et al.(1996) found one-third of the induced abortions were done after 12 weeks and half were done at home by non-medical persons or the women themselves. About 15 percent of the women had repeat abortions though contraceptive use did increase following the induced abortion. About 76 percent of women stated they were using a family planning method during the follow-up interview.

In two thanas during a seven month period in 1996, 144 women came to the THC with abortion complications. Sixty-one percent of these were the result of an induced abortion, the balance spontaneous. Forty-three percent of the induced abortion cases either performed the abortion themselves or used untrained abortionists. Complications following the abortion were numerous. Hemorrhage was the most common complication, followed by abdominal pain, fever and sepsis. One woman died as a result of her abortion.

The majority of women stated they had the abortion because they did not want to have another child yet only 15 percent were using a contraceptive method at the time they became pregnant. It is possible that some of these women thought they were too old to become pregnant, though the mean age of the sample is only 28.7 years and only 23 percent of the induced cases were over 35. It would require further investigation to understand why women who clearly do not want another child still are not able or are unwilling to use contraceptive services. At the three month follow up visit, 33 percent of the women still did not use a family planning method (Ahmed et al., 1997).

In 144 villages of Matlab thana data on pregnancy termination was examined for a four month period in 1995. There were 91 induced and 77 spontaneous abortions. Only 43 percent of the induced abortions were performed by a health professional, 35 percent by MBBS doctors and eight percent by FWVs. The remaining 57 percent of the induced abortions were performed by traditional methods, mainly the insertion of sticks or creepers (Bhuiya et al., draft 1997).

In another rural study (Caldwell et al., 1997), the 41 women interviewed who had terminated pregnancies described a complex process of selecting a service provider. Forty percent of them chose a non-trained provider, either a village doctor (quack); homeopathic practitioner; a kabiraj; or did a self-abortion. "The respondents, in general, placed little emphasis on the risk of using

⁶ The irony of this statement is that government services are ostensibly already free. There are two possible explanations. 1) The anecdotal information regarding routine charging of fees to clients who seek MR services is correct enough to discourage some potential urban consumers. 2) The potential clients simply do not have sufficient information about available services.

untrained providers." The reasons given for using an untrained provider were principally: "knowledge, familiarity and trust of the provider; confidentiality; and proximity to the respondents house." Concern about cost was also a common theme.

This information on traditional abortion is compelling for those concerned with how women make decisions about health care. Reasons women select a traditional abortion even when MR and family planning are available point to serious issues of access and quality and warrant focussed attention.

THE ROLE OF MEN IN PREGNANCY TERMINATION

Available research is limited and offers only a tantalizing glimpse at men and their influence on pregnancy termination. The research indicates men have multiple roles in decisions and actions.

These roles are usually positive as they help their wives make the decision and then proactively seek information and services. In limited cases men still take a dominate role, forcing their wives to terminate a pregnancy and seeking potentially harmful services.

Early studies (Obaidullah and Khan, 1981) report that MR decisions were influenced by the husband in 73 percent of cases. This does not mean that the husband made the decision alone but he was involved in a joint decision process.

By the nineties Hossain et al. (1997) found husbands made the decision alone in only eight percent of cases while in over 40 percent of cases, the decision was made jointly. Financing the pregnancy termination, particularly complications, was also mainly a male role. The financial responsibility often goes beyond the husband to include the woman's father or brothers. In 75 percent of the cases, expenditures exceeded Tk. 1000 for the initial procedures and subsequent costs for complications. For ten percent of the cases, the cost was between Tk. 5000 and 25,000.

Families became involved in extreme cases where the costs required mortgaging of property or borrowing.

Ahmed et al. (1997) report that men made the decision for their wives in eleven percent of the cases, while 40 percent make a joint decision. Similar findings are reported by Caldwell et al. (1997) though men seem slightly more dominant than other studies. Of 38 cases, women initiated the discussion in 30. However, the final decision was made by men in 14 cases (approximately 37 percent). In ten cases a joint decision was made. The remainder indicated the decision was either made by the woman alone (16 percent) or was strongly influenced by other family members or service providers (mother, brother-in-law, sister-in-law, FWA or physician).

Men may also be involved as service providers for traditional abortion, though the information on this is very limited. Islam (1981), in her case research on traditional abortionists, learned that most of her informants had been trained to provide abortions by their husbands or fathers who were traditional healers or kabirajis. Though the male service providers never actually performed abortions using uterine applications, they provided information on what roots were needed and what to do in case of emergencies. In Caldwell et al. (1997), women reported the use of oral abortifacient given by male VHPs.

In the case studies of Hossain et al. (1997), the respondents mentioned going to male VHPs in 15 percent of the cases. These VHPs provided herbal medicines to induce the abortion. When complications occurred, VHPs were often called to administer medications (usually saline and

pain killers) and to provide advice.

Ahmed et al. (1997) reports that service providers for indigenous abortion included: VHPs, kabiraji and moulvi⁷.

Male roles all need further study. They are active as influential family members in decisions about pregnancy termination, and appear to have a role as service providers for both induced abortion and complications.

DONOR SUPPORT TO THE MR PROGRAM

The United States of America⁸ provided the principal assistance to population programs throughout the world. Political will for the support of population was firmly established during the Lyndon Johnson presidency (1963-68), a reversal from the policies of his predecessors. At the 20th anniversary celebrations at the United Nations, President Johnson affirmed the interest of his government in both domestic and foreign population programs.

"Let us in all our lands -- including this land -- face forthrightly the multiplying problems of our multiplying populations, and seek answers to this most profound challenge to the future of the world. Let us act on the fact that less than \$5 invested in population control is worth \$100 invested in economic growth".

Initially President Johnson and his Congressional colleagues supported programs that an individual country considered essential. There was no explicit language for or against any particular method or means to reach the goals of population limitation. He stated firmly in his Special Message to Congress on Foreign Aid in 1966:

"We stand ready to help developing countries deal with the population program. The US cannot and should not force any country to adopt any particular approach to this problem. It is a matter of individual and national conscience."

During the administration of Richard Nixon, Johnson's immediate successor, the first anti-abortion language crept into political debate. President Nixon continued to emphatically support population control as a critical development issue but refused to officially endorse a Joint Congressional Committee on Population's report in 1972 because he opposed "unrestricted abortion policies" and "unrestricted distribution of family planning services to minors".

In January of 1974, USAID was prohibited from providing support for abortion services and abortion related activities. At the same time, support for international population programs intensified with full Congressional support.

Under the presidency of Ronald Reagan, the Executive Branch of the U.S. government signalled they no longer supported international population programs when the Office of Management and Budget removed all funding for international population assistance from the 1983 draft budget. Congress, the Legislative Branch, was able to reverse that decision and continued to appropriate funds for international population efforts.

⁷ This is the only published study which mentions a "moulvi" as a service provider for abortion. This finding could certainly benefit from a more in depth examination.

⁸ The information on the U.S. funding for population and MR is based on an article by Marshall Green entitled "US International Population Policy." See bibliography for complete reference.

In 1983 USAID Administrator Mac Pherson testified before the House Budget Committee that "we give preference in our population funding to programs that provide a wide range of choice of methods -- **excluding abortion...**"

These developments paved the way for a stringent U.S. policy articulated at the International Conference on Population in Mexico City in 1984. At that Conference, the U.S. presented a stand quite personalized by the delegation leader, James Buckley. The State Department and USAID submitted a counter draft but only parts of it were incorporated. Buckley denounced abortion, threatened to pull funding from IPPF because some of its affiliate programs supported abortion services, and criticized the China program based on his belief it was coercive. By the end of the year, U.S. funds for IPPF were terminated. In 1986, funds to UNFPA were also stopped because they continued to support the Chinese program.

Anti-abortion activists had a strong ally in the Executive Branch of government during the Reagan presidency. When George Bush became president, there was a dim hope that he would support international population programs which he had strongly advocated during his years as Representative to the United Nations and his vice-presidency. However, he chose to continue to veto funds for the UNFPA and made a clear anti-abortion stand. In a letter to the House of Representatives in 1989 he stated firmly:

"I strongly support family planning programs which do not condone or encourage abortion or coercive measures."

In the same statement he reaffirmed the Mexico City policy.

When Wm. Clinton became president, he reversed the Mexico City policy, though funds for direct abortion services are still not available through the U.S. government funds.

Throughout the presidential shifts, the U.S. has continued to provide the largest amount of financial and technical assistance to international population programs. However, since the Mexico City conference, funding for MR or abortion services has not been restored.

The support from USAID to MR programs followed the vagaries of U.S. political will and policies over the decades. At an international level the Office of Population of USAID provided funds for MR research, information, services and MR syringes from the late 1960s. In Bangladesh, as outlined earlier, Pathfinder provided the primary support in the early 1970s. The funds were from USAID which also aided the development of services by the Family Planning Association of Bangladesh (FPAB), Concerned Women for Family Planning (CWFP), and ICDDR,B. The procurement of MR kits was finally prohibited in 1982 but support for services continued. However by 1983 Pathfinder, and all other organizations using USAID funds, capitulated to the stringent anti-abortion requirements and ceased funding all MR activities in Bangladesh.

The government took over the MRTSP program as a Special Project of the Ministry of Health and Family Planning. Interim management and financial assistance came from the Population Crisis Committee. In 1985, Ford Foundation funded the entire program for two years. Government continued to provide "in kind support". Swedish International Development Agency (SIDA) began supporting training and equipment procurement since 1989. Since then SIDA has been the primary donor to the MR program, with technical assistance provided by IWHC. ODA provides support to MR services in selected facilities like Marie Stopes Clinic Society.

SIDA's continued involvement in the MR program is summed up in their "Policy Guidelines" (June 1996).

"In order to contribute significantly to the development of women and to a reduction of their maternal mortality, a strategy for SIDA in Bangladesh to support a comprehensive and gender-sensitive reproductive health programme must include support to MR activities. ... quality and accessibility of such services is of utmost importance, and the government efforts to train, support and supervise the doctors and FWVs should be supported. More attention should be given to the information to the women about the availability of such services... Components of the programme which need particular attention are: (a) the quality of performance of the field workers after the training... (b) improvements in the logistics for supplying and disposing of kits below the Thana level, (c) development of a workable component in the Management Information System to allow for a continuous monitoring of the true number of procedures performed...

Work should be initiated and supported to make a wellbased estimate of the numbers of induced abortions performed outside the accepted system in order to provide a basis for assessment of the combined impact that the MR programme and the FP programme have on maternal mortality from illegally induced abortions.

Innovative approaches in the training and service provision in this programme should be stimulated and supported."

A potential funding crisis lies ahead for the MR program. SIDA will partially fund the MR program in the immediate future. They will no longer fund the purchase of MR equipment nor the MFSTC's recurrent costs after 1997 (Ross and Chowdhury, 1997). Though the MOHFW has agreed to meet these costs, the Establishment Ministry will not include MFSTC in the revenue budget until 2000. This implies a three year gap in funding for the MFSTC, a principal provider of both training and services.

UNANSWERED QUESTIONS

The number of pregnancy terminations performed in Bangladesh, either through legal or traditional means is unknown. Ross et al. (1996) describes the problem:

"In the health and family planning sector of the country a vacuum seems to exist regarding nationwide statistics on abortion. It is very difficult to identify and record abortion, including induced abortion. There is no way of knowing as to how many pregnancies actually end up in being induced. Similarly, nothing can be said about the proportion of MR conducted out of the total number of abortions done in the country, especially in rural areas. This is a priority research area."

Further research is also needed to determine why women use traditional abortion when MR services and family planning are both available.

Among the questions which still require answers are these:

* **What are the most powerful influences on choice of pregnancy termination method: financial; privacy/confidentiality; access; or simply timing?**

-Financial: In the available information women report paying a substantial amount for MR, others say they do not use an MR because they fear the costs will be too high. They know how and what they will have to pay a traditional health practitioner so use them instead because they are affordable and accessible.

-Privacy/confidentiality: MR services are offered in clinics which have inadequate privacy. Situation analysis data from unrelated family planning service studies (Barkat et al. 1995; Rahman et al. 1996) have found that privacy for

examination or services is not routinely available in government service sites. Women seeking MR services may find it too embarrassing or even potentially harmful to their social status, to have an MR in a non-private setting. This may lead to either the choice of a traditional abortion or the request for an FWV to perform the MR at her "private practice".

-Access: Are facilities -- the hours and location -- convenient for the potential client? Is there a trained provider who the client is comfortable with both for the service, counseling and post-MR family planning care? Is the service point of a general nature (MCH and family planning care) or is she "marked" as an MR client if she goes there?

-Timing: MR services are limited to 8 or 10 weeks after the date of the last menstrual period depending on whether the service is provided by a paramedic or a physician. From a service safety viewpoint, this is appropriate timing. However, there is a tacit assumption in this timing that a woman is 1) so familiar with her menstrual cycle she knows the moment that she has missed her menses; and 2) the moment she is aware she has missed the menses, she has the wherewithal to go to a clinic for an MR. The first assumption is weak for women who believe they are protected by some other means, (i.e., lactational amenorrhea or breast feeding; using a family planning method; or feeling they are too old to get pregnant). Hossain et al. (1997) found that most of the women in their study were in one of those groups. They tend to delay, ignoring the symptoms of pregnancy.

The second assumption presumes women have immediate access to money and the freedom to leave their home and attend a clinic. Limited information is available but again Hossain et al.(1997) report that only 45 percent of women made the decision alone and Ahmed et al. (1997) report 38 percent. This implies that at least half of the women have to consult with others before they are able to seek services. The time for consultation may put them beyond the safe period for MR.

- * **Is the MR program accomplishing the dual purposes of preventing maternal mortalities by eliminating the need for traditional abortion and serving as a back-up for contracepting couples when methods fail?**

The information presented in this review, though based on very small studies, indicate that for some women both the MR and family planning program are still inaccessible. It is imperative to learn more about these women in order to reach them with life-saving reproductive health services.

- * **As the family planning program grows ever more successful, will the need for MR services continue?**

The answer to this question is not as elusive as the others which this review poses. It can be easily argued that there will always be contraceptive failures in a program, no matter how successful. This is particularly true in a country where literacy is still low, access to information limited, and early age at marriage and first birth is common. Based on BDHS 1993-94, Streatfield et al. write "While age at marriage among women has risen by about one year over the past decade,

age at first birth has changed less...the situation persists that **more than half of Bangladeshi girls have married and produced their first child while still teenagers. Indeed, by age 20, one in four has already had a second child.**" If women continue to complete their desired family size at an early age, they will require safe and effective fertility regulation for as much as 20-25 years, a long period of time to protect women with conventionally available spacing methods. Thus, there will always be unwanted pregnancies.

The Bangladesh program is particularly vulnerable since it is principally an oral pill program. Oral pills effectiveness depends on the user. Less motivated or poorly-informed women easily take oral pills incorrectly and bear the consequence of an unwanted or mistimed pregnancy.

Older women who are particularly disinclined to experience additional childbirth are also a vulnerable group. More than 30 percent of women who are 35 years and above use either oral pills or traditional methods of contraception. If the women in the age group 30-34 are added, the percentage rises above 50 for oral pill and to 44 percent for traditional methods (BDHS, 1993-94). These women are particularly at risk of inducing a termination if they become pregnant. As long as the method mix of the program continues to rely heavily on oral pills, it is likely that the need for MR will persist.

The family planning program continues to experience high discontinuation rates for all methods (BDHS 1996-97). Nearly half of all users discontinue their method within the first year of use. Only 7 percent stop because they wish to become pregnant and an additional 4 percent because they have a method failure. This leaves the remaining discontinuers at risk of an unwanted pregnancy.

Since the family planning program will continue to require MR as a back-up service to maintain its successful momentum, the unanswered questions posed above require focussed attention. The national family planning program is one of the most carefully studied and evaluated programs in the world. The same scrutiny applied to the family planning program's myriad components would benefit the quality and effectiveness of the MR program.

REFERENCES

- Ahlborg, J. and R.N. Akhand. (1995). "FWV Clinical Skills and In-service Training Assessment", NIPORT, GTZ, Bangladesh and AVSC International, Bangladesh.
- Ahmed, S., Parveen, S.D., Islam, A., & Khanum, P.A. (DRAFT, 1997). "Induced Abortion: Results from two rural areas of Bangladesh". MCH-FP Extension Project (Rural), Health and Population Extension Project, ICDDR,B, Bangladesh.
- _____ Haque, I., Khuda, B.E., Hossain, M.B., & Alam, S. (1996). "Abortion in Rural Bangladesh: Evidence from the MCH-FP Extension Project", Working Paper No. 121, MCH-FP Extension Project (Rural), Health and Population Extension Division, ICDDR,B, Bangladesh.
- Akhter, H.H.(1986). "Medical Practice after Legalization of Abortion: Bangladesh Prevention and Treatment of Contraceptive Failure". **Prevention and Treatment of Contraceptive Failure -- In Honor of Christopher Tietze** edited by U. Landy and S.S. Ratnam. Plenum Press, New York.
- _____ (September 1987)). "Predictors of Contraceptive Continuation among Urban Family Planning Acceptors of Bangladesh". Bangladesh Development Studies, Vol. XV, No. 3.
- _____ (1988). "Abortion in Bangladesh". International Handbook on Abortion edited by Paul Sachdev, Greenwood Press.
- _____ (August 1996). "Keynote Paper on Reproductive Health", National Workshop on Reproductive Health with a Gender Perspective", Bangladesh.
- _____ Chowdhury, M.E.E.K., & Sen, A. (December 1996). A Cross-Sectional Study on Maternal Morbidity in Bangladesh. BIRPERHT.
- _____ Flock, M.L. & Rubin, G.L. (15 July 1985). "Safety of Abortion and Tubal Sterilization Performed Separately versus Concurrently". Studies in Family Planning, Vol. 17, No. 2.
- _____ Rahman M. H. & Ahmed, S. (May, 1996). "Reproductive Health Issues and Implementation Strategies in Bangladesh", BIRPERHT, Bangladesh.
- _____ & R.V. Rider (December 1983). "Menstrual Regulation Versus Contraception in Bangladesh: Characteristics of the Acceptors". Studies in Family Planning, Vol. 14, No. 12.
- _____ & T.F. Khan (December 1996). A Bibliography on Menstrual Regulation and Abortion Studies in Bangladesh. BIRPERHT.
- Al-Sabir, A., Islam, M. A., Rob, U., Rahman, H., Islam, N., Sultana, S., & Bhadra, S. K., Editors (July 1995). "Workshop on Research Priorities in Population and Reproductive Health: Proceedings", May 20-21, 1995, NIPORT, GTZ and The Population Council, Bangladesh.
- Amin, R., Kamal, G.M., Begum, S.F. & Kamal, H. (March/April 1989) "Menstrual Regulation Training and Service Programmes in Bangladesh: Results from a National Survey". Studies in Family Planning, Vol. 20, No. 2.
- Bangladesh Demographic and Health Survey 1996-97: Preliminary Report (1997). NIPORT,

Begum, S.F., Akhter, H.H., Kamal, H. & Kamal, G.M. (1991). "Hospital -Based Descriptive Study of Illegally Induced Abortion-Related Mortality and Morbidity and its Cost on Health Services". BAPSA.

_____ Kamal, H. & Kamal, G.M. (1987). "Evaluation of MR Services in Bangladesh". BAPSA.

_____ & K. Jalil (1986). "Problem of Septic Abortion in Bangladesh and the Need for Menstrual Regulation". **Prevention and Treatment of Contraceptive Failure -- In Honor of Christopher Tietze** edited by U. Landy and S.S. Ratnam, Plenum Press, New York.

Bhatia, S., Faruque, A.S.G., & Chakraborty, J. (6 June 1980). "Assessing Menstrual Regulation Performed by Paramedics in Rural Bangladesh". Studies in Family Planning, Vol. 11, No. 6.

Bhuiya, A., Chowdhury, A.M.R. & Aziz, A. (DRAFT, 1997). "Management of Abortion in a Rural Area of Bangladesh", ASCON VI, ICDDR,B.

Blanchet, T. (October 1991). "Maternal Health in Rural Bangladesh: An anthropological study of maternal nutrition and birth practices in Nasirnagar, Bangladesh". Save the Children, USA in Bangladesh.

Caldwell, B., Khuda, B.E., Ahmed, S., Ness, F., & Haque, I. (1997). "The Determinants and Consequences of Pregnancy Termination in Rural Bangladesh: A Widern Context". MCH-FP Extension Project (Rural), Health and Population Extension Division, ICDDR,B.

Chen, L.C., Gesche, M.C., Ahmed, S., Chowdhury, A.I. & Mosley, W.H. (November 1974). "Maternal mortality in Bangladesh", in Studies in Family Planning, Vol. 5, No. 11.

Dixon-Muller, R. (May/June 1988). "Innovations in Reproductive Health Care: Menstrual Regulation Policies and Programs in Bangladesh". Studies in Family Planning, Vol. 20, No. 2.

Fouveau, V. & T. Blanchet (1989). "Deaths from Injuries and Induced Abortion Among Rural Bangladeshi Women". Social Science and Medicine, Vol. 29, No. 9.

Green, M. (June 1993). "The Evolution of US International Population Policy". Population and Development Review, Vol. 19, No. 2.

Hossain, A., Kamal, H. & Akhter, R. (1997). "Septic Abortion: Results from an Anthropological Study". BAPSA.

International Women's Health Coalition (1994). "Overview Report of the Bangladesh National Menstrual Regulation Program: Final Program Review November 11 - December 2, 1994". For Swedish International Development Authority (SIDA).

Islam, S. (March, 1981 -- reprinted in June,1992). Indigenous Abortion Practitioners in Rural Bangladesh, Women Abortionists: Their Perceptions and Practice, Narigrantha Prabartana, Bangladesh.

_____ (March 1982). "Case Studies of Indigenous Abortion Practitioners in Rural Bangladesh". Studies in Family Planning, Vol. 13, No.3.

Kabir, S. M. (1989). "Causes and Consequences of Unwanted Pregnancy From Asian Women's Perspective". International Journal of Gynecology and Obstetrics, Supplement 3.

_____ (1986). "Menstrual Regulation Service Delivery". **Prevention and Treatment of Contraceptive Failure -- In Honor of Christopher Tietze** edited by U. Landy and S.S. Ratnam, Plenum Press, New York.

Kamal, G.M. & S.F. Begum (1990). "Study on Intervention Necessary for Preventing Rejection of MR Clients". BAPSA.

Kamal, H., Hossain, A., Yasmin, R., Ahmed, J., Taher, A. Rahman, S., Begum, S.F., & Kamal, G.M. (August 1994). "Utilization of Reproductive Health Care Services in Dhaka City". BAPSA.

_____ Hossain, A. & Kamal, G.M. (1992) "Facilitation of the Distribution of MR Equipment: Final Report". BAPSA.

Khan, A.R., Begum, S.F., Covington, D.L., Janowitz, B., James, S., & Potts, M. (December 1984). "Risks and Costs of Illegally Induced Abortion In Bangladesh". Journal of Biosocial Science.

_____ Rochat, R.W., Jahan, F.A., & Begum, S.F. (March/April 1986). "Induced Abortion in a Rural Area of Bangladesh". Studies in Family Planning, Vol. 17, No. 2.

Measham, A.R., Rosenberg, M.J., Khan, A.R., Obaidullah, M. Rochat, R. W., & Jabeen, S. (1981). "Complications from Induced Abortion in Bangladesh Related to Types of Practitioners and Methods and Impact on Mortality", The Lancet.

Mitra, S.N. & G.M. Kamal (1985). Bangladesh Contraceptive Prevalence Survey 1983, Final Report. Mitra and Associates.

_____ (1987). Bangladesh Contraceptive Prevalence Survey 1985, Final Report, Mitra and Associates.

_____ Larson, A., Foo, G. & Islam, S. (1990). Bangladesh Contraceptive Prevalence Survey 1989, Final Report, Mitra and Associates.

_____ Lerman, C., & Islam, S. (1993). Bangladesh Contraceptive Prevalence Survey 1991, Final Report, Mitra and Associates.

_____ Nawab Ali, M., Islam, S., Cross, A.R., & Saha, T. (1994). Bangladesh Demographic and Health Survey 1993-94. NIPORT, Mitra and Associates, Macro International.

Obaidullah, M. & A.R. Khan (December 1981). "Social Dynamics of Abortion Services in Rural Bangladesh", BFRP Sixth Contributors Conference.

Obstetric and Gynecology Society of Bangladesh & UNICEF (1993). "Emergency Obstetric Care: Interventions for the Reduction of Maternal Mortality. Bangladesh.

Population Action International (September 1993). "Expanding Access to Safe Abortion: Key Policy Issues", Population Policy Information Kit Number 8.

Potts, M., Diggory, P. & Peel, J. (1977). Abortion. Cambridge University Press, London.

Rahman, S. (13 December 1980). "Profile of Menstrual Regulation Clients of Mohammadpur Model Clinic". BFRP Fifth Contributors Conference.

_____ Chowdhury, J.H., Khan, M. S.H., Tariq, T., & Rahman, A.P.M S. (June 1996).

"MCH-FP Services in Rajshahi Division: A Situation Analysis", NIPORT, ACPR, and UNFPA.

Rob, U. & T. Ahmed (1996). "Menstrual Regulation Program in Bangladesh: Policy and Programmatic Issues."

Rochat, R.W., Jabeen, S., Rosenberg, M.J., Measham, A.R., Khan, A.R., Obaidullah, M. & Gould, P. (1981). "Maternal and Abortion Related Deaths in Bangladesh, 1978-79", International Journal Gynecology Obstetrics, 19:155-164.

Rosenberg, M.J., Rochat, R.W., Jabeen, S., Measham, A.R., Obaidullah, M. & Rahman, A.R. (August/September 1981), "Attitudes of Rural Bangladesh Physicians towards Abortion", Studies in Family Planning, Vol. 12, No. 8/9.

Ross, G. & S.N.M. Chowdhury (January 1997). "Interim Program Review of the Bangladesh National Menstrual Regulation Training Program 1995-1997, IWHC for SIDA.

Ross, J.A. & E. Frankenberg (1993). "Findings from Two Decades of Family Planning Research". The Population Council, New York.

Ross, J.L., Chowdhury, S.N.M., & Mirza, T. (July 1996). "Health, Gender and Sexuality: Bangladesh Country Report", ICDDR,B. Dhaka, Bangladesh.

SIDA (June 1996). "Menstrual Regulation in Bangladesh: Policy Guidelines for SID Support to MR", Stockholm, Sweden.

Thwin, A.A., Islam, M. A., Baqui, A. H., Reinke, W. A. & Black, R. E. (1996). "Health and Demographic Profile of the Urban Population of Bangladesh: An Analysis of Selected Indicators", MCH-FP Extension Project (Urban), Health and Population Extension Division, ICDDR,B. Bangladesh.

Thwin, A.A. & S. A. Jahan (1996). "Rapid Appraisal of Urban Health Needs and Priorities", Working Paper #22, MCH-FP Extension Project (Urban), Health and Population Extension Division, ICDDR,B, Bangladesh.

Tietze, C. (1983). "Induced Abortion: A World Review, 1983", Fifth Edition, A Population Council Fact Book.

Toubia, N. & V. Kallianes (no date). "Information and Methodological References for Research on Unwanted Pregnancy and Abortion", The Population Council, New York.

UNFPA (DRAFT 1996). "Reproductive Health in the Urban Sector. UNFPA and Concerned Women for Family Planning.

USAID Client Customer (1995) -- Menstrual Regulation and Abortion -

Waliullah, S. & A. Al-Sabir (1984). "A Study on Menstrual Regulation in two Clinics". Contraceptive Practice in Bangladesh: Safety Issues Report of Multi-institutional Contraceptive Safety Research Program.

WHO/UNICEF (April 1996). "Revised 1990 Estimates of Maternal Mortality: a new approach by WHO and UNICEF."